



SEQUENCE LISTING

<110> Gentz, Reiner et al.

<120> Tumor Necrosis Factor Receptors 6 Alpha and 6 Beta

<130> PF454

<140> 09/006,352

<141> 1998-01-13

<150> 60/035,496

<151> 1997-01-14

<160> 24

<170> PatentIn Ver. 2.1

<210> 1

<211> 1077

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (25)..(924)

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Ser Leu Leu Cys Leu Val Leu Ala Leu Pro Ala Leu Leu Pro Val Pro
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gct gta cgc gga gtg gca gaa aca ccc acc tac ccc tgg cgg gac gca 147
Ala Val Arg Gly Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala
30 35 40

gag aca ggg gag cgg ctg gtg tgc gcc cag tgc ccc cca ggc acc ttt 195
Glu Thr Gly Glu Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe
45 50 55

gtg cag cgg ccg tgc cgc cga gac agc ccc acg acg tgt ggc ccg tgt 243
Val Gln Arg Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys
60 65 70

cca ccg cgc cac tac acg cag ttc tgg aac tac ctg gag cgc tgc cgc 291
Pro Pro Arg His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg
75 80 85

tac tgc aac gtc ctc tgc ggg gag cgt gag gag gag gca cgg gct tgc 339
Tyr Cys Asn Val Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys
90 95 100 105

cac gcc acc cac aac cgt gcc tgc cgc tgc cgc acc ggc ttc ttc gcg 387
His Ala Thr His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala

110 115 120
 cac gct ggt ttc tgc ttg gag cac gca tcg tgt cca cct ggt gcc ggc 435
 His Ala Gly Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly
 125 130 135
 gtg att gcc ccg ggc acc ccc agc cag aac acg cag tgc cag ccg tgc 483
 Val Ile Ala Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys
 140 145 150
 ccc cca ggc acc ttc tca gcc agc agc tcc agc tca gag cag tgc cag 531
 Pro Pro Gly Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln
 155 160 165
 ccc cac cgc aac tgc acg gcc ctg ggc ctg gcc ctc aat gtg cca ggc 579
 Pro His Arg Asn Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly
 170 175 180 185
 tct tcc tcc cat gac acc ctg tgc acc agc tgc act ggc ttc ccc ctc 627
 Ser Ser Ser His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu
 190 195 200
 agc acc agg gta cca gga gct gag gag tgt gag cgt gcc gtc atc gac 675
 Ser Thr Arg Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp
 205 210 215
 ttt gtg gct ttc cag gac atc tcc atc aag agg ctg cag cgg ctg ctg 723
 Phe Val Ala Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu
 220 225 230
 cag gcc ctc gag gcc ccg gag ggc tgg ggt ccg aca cca agg gcg ggc 771
 Gln Ala Leu Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly
 235 240 245
 cgc gcg gcc ttg cag ctg aag ctg cgt cgg cgg ctc acg gag ctc ctg 819
 Arg Ala Ala Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu
 250 255 260 265
 ggg gcg cag gac ggg gcg ctg ctg gtg cgg ctg ctg cag gcg ctg cgc 867
 Gly Ala Gln Asp Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg
 270 275 280
 gtg gcc agg atg ccc ggg ctg gag cgg agc gtc cgt gag cgc ttc ctc 915
 Val Ala Arg Met Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu
 285 290 295
 cct gtg cac tgatcctggc cccctcttat ttattctaca tccttggcac 964
 Pro Val His
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 cccacttgca ctgaaagagg ctttttttta aatagaagaa atgaggtttc ttaaagctta 1024
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 <212> PRT

<213> Homo sapiens

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 Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
 35 40 45
 Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
 50 55 60
 Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
 65 70 75 80
 Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
 85 90 95
 Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
 100 105 110
 Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
 115 120 125
 His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
 130 135 140
 Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala
 145 150 155 160
 Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
 165 170 175
 Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His Asp Thr Leu
 180 185 190
 Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val Pro Gly Ala
 195 200 205
 Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe Gln Asp Ile
 210 215 220
 Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu Ala Pro Glu
 225 230 235 240
 Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu Gln Leu Lys
 245 250 255
 Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu
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 <222> (73)..(582)

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 Met Arg Ala Leu Glu Gly Pro Gly Leu Ser Leu Leu Cys
 1 5 10

ctg gtg ttg gcg ctg cct gcc ctg ctg ccg gtg ccg gct gta cgc gga 159
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 15 20 25

gtg gca gaa aca ccc acc tac ccc tgg cgg gac gca gag aca ggg gag 207
 Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu
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cgg ctg gtg tgc gcc cag tgc ccc cca ggc acc ttt gtg cag cgg ccg 255
 Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro
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tgc cgc cga gac agc ccc acg acg tgt ggc ccg tgt cca ccg cgc cac 303
 Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His
 65 70 75

tac acg cag ttc tgg aac tac ctg gag cgc tgc cgc tac tgc aac gtc 351
 Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val
 80 85 90

ctc tgc ggg gag cgt gag gag gag gca cgg gct tgc cac gcc acc cac 399
 Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His
 95 100 105

aac cgt gcc tgc cgc tgc cgc acc ggc ttc ttc gcg cac gct ggt ttc 447
 Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe
 110 115 120 125

tgc ttg gag cac gca tcg tgt cca cct ggt gcc ggc gtg att gcc ccg 495
 Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro
 130 135 140

ggt gag agc tgg gcg agg gga ggg gcc ccc agg agt ggt ggc cgg agg 543
 Gly Glu Ser Trp Ala Arg Gly Gly Ala Pro Arg Ser Gly Gly Arg Arg
 145 150 155

tgt ggc agg ggt cag gtt gct ggt ccc agc ctt gca ccc tgagctagga 592
 Cys Gly Arg Gly Gln Val Ala Gly Pro Ser Leu Ala Pro

160

165

170

caccagttcc cctgaccctg ttcttccctc ctggctgcag gcacccccag ccagaacacg 652
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<213> Homo sapiens

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 20 25 30

Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
 35 40 45

Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
 50 55 60

Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln

65		70		75		80									
Phe	Trp	Asn	Tyr	Leu	Glu	Arg	Cys	Arg	Tyr	Cys	Asn	Val	Leu	Cys	Gly
				85					90					95	
Glu	Arg	Glu	Glu	Glu	Ala	Arg	Ala	Cys	His	Ala	Thr	His	Asn	Arg	Ala
			100					105					110		
Cys	Arg	Cys	Arg	Thr	Gly	Phe	Phe	Ala	His	Ala	Gly	Phe	Cys	Leu	Glu
		115					120					125			
His	Ala	Ser	Cys	Pro	Pro	Gly	Ala	Gly	Val	Ile	Ala	Pro	Gly	Glu	Ser
	130					135					140				
Trp	Ala	Arg	Gly	Gly	Ala	Pro	Arg	Ser	Gly	Gly	Arg	Arg	Cys	Gly	Arg
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Gly	Gln	Val	Ala	Gly	Pro	Ser	Leu	Ala	Pro						
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 <213> Homo sapiens

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			20					25					30		
His	Leu	Gly	Asp	Arg	Glu	Lys	Arg	Asp	Ser	Val	Cys	Pro	Gln	Gly	Lys
		35					40					45			
Tyr	Ile	His	Pro	Gln	Asn	Asn	Ser	Ile	Cys	Cys	Thr	Lys	Cys	His	Lys
	50					55					60				
Gly	Thr	Tyr	Leu	Tyr	Asn	Asp	Cys	Pro	Gly	Pro	Gly	Gln	Asp	Thr	Asp
65					70					75					80
Cys	Arg	Glu	Cys	Glu	Ser	Gly	Ser	Phe	Thr	Ala	Ser	Glu	Asn	His	Leu
			85						90					95	
Arg	His	Cys	Leu	Ser	Cys	Ser	Lys	Cys	Arg	Lys	Glu	Met	Gly	Gln	Val
			100					105					110		
Glu	Ile	Ser	Ser	Cys	Thr	Val	Asp	Arg	Asp	Thr	Val	Cys	Gly	Cys	Arg
		115					120					125			
Lys	Asn	Gln	Tyr	Arg	His	Tyr	Trp	Ser	Glu	Asn	Leu	Phe	Gln	Cys	Phe
	130					135					140				
Asn	Cys	Ser	Leu	Cys	Leu	Asn	Gly	Thr	Val	His	Leu	Ser	Cys	Gln	Glu
145					150					155					160

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
 165 170 175
 Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
 180 185 190
 Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser
 195 200 205
 Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu
 210 215 220
 Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys
 225 230 235 240
 Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu
 245 250 255
 Gly Glu Leu Glu Gly Thr Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser
 260 265 270
 Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val
 275 280 285
 Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys
 290 295 300
 Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly
 305 310 315 320
 Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn
 325 330 335
 Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp
 340 345 350
 Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro
 355 360 365
 Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu
 370 375 380
 Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln
 385 390 395 400
 Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala
 405 410 415
 Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly
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 Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro
 435 440 445
 Pro Ala Pro Ser Leu Leu Arg
 450 455

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 <213> Homo sapiens

<400> 6

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 20 25 30

Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln
 35 40 45

Thr Ala Gln Met Cys Cys Ser Lys Cys Ser Pro Gly Gln His Ala Lys
 50 55 60

Val Phe Cys Thr Lys Thr Ser Asp Thr Val Cys Asp Ser Cys Glu Asp
 65 70 75 80

Ser Thr Tyr Thr Gln Leu Trp Asn Trp Val Pro Glu Cys Leu Ser Cys
 85 90 95

Gly Ser Arg Cys Ser Ser Asp Gln Val Glu Thr Gln Ala Cys Thr Arg
 100 105 110

Glu Gln Asn Arg Ile Cys Thr Cys Arg Pro Gly Trp Tyr Cys Ala Leu
 115 120 125

Ser Lys Gln Glu Gly Cys Arg Leu Cys Ala Pro Leu Arg Lys Cys Arg
 130 135 140

Pro Gly Phe Gly Val Ala Arg Pro Gly Thr Glu Thr Ser Asp Val Val
 145 150 155 160

Cys Lys Pro Cys Ala Pro Gly Thr Phe Ser Asn Thr Thr Ser Ser Thr
 165 170 175

Asp Ile Cys Arg Pro His Gln Ile Cys Asn Val Val Ala Ile Pro Gly
 180 185 190

Asn Ala Ser Arg Asp Ala Val Cys Thr Ser Thr Ser Pro Thr Arg Ser
 195 200 205

Met Ala Pro Gly Ala Val His Leu Pro Gln Pro Val Ser Thr Arg Ser
 210 215 220

Gln His Thr Gln Pro Thr Pro Glu Pro Ser Thr Ala Pro Ser Thr Ser
 225 230 235 240

Phe Leu Leu Pro Met Gly Pro Ser Pro Pro Ala Glu Gly Ser Thr Gly
 245 250 255

Asp Phe Ala Leu Pro Val Gly Leu Ile Val Gly Val Thr Ala Leu Gly
 260 265 270

Leu Leu Ile Ile Gly Val Val Asn Cys Val Ile Met Thr Gln Val Lys

2 cont

275 280 285
 Lys Lys Pro Leu Cys Leu Gln Arg Glu Ala Lys Val Pro His Leu Pro
 290 295 300
 Ala Asp Lys Ala Arg Gly Thr Gln Gly Pro Glu Gln Gln His Leu Leu
 305 310 315 320
 Ile Thr Ala Pro Ser Ser Ser Ser Ser Ser Leu Glu Ser Ser Ala Ser
 325 330 335
 Ala Leu Asp Arg Arg Ala Pro Thr Arg Asn Gln Pro Gln Ala Pro Gly
 340 345 350
 Val Glu Ala Ser Gly Ala Gly Glu Ala Arg Ala Ser Thr Gly Ser Ser
 355 360 365
 Asp Ser Ser Pro Gly Gly His Gly Thr Gln Val Asn Val Thr Cys Ile
 370 375 380
 Val Asn Val Cys Ser Ser Ser Asp His Ser Ser Gln Cys Ser Ser Gln
 385 390 395 400
 Ala Ser Ser Thr Met Gly Asp Thr Asp Ser Ser Pro Ser Glu Ser Pro
 405 410 415
 Lys Asp Glu Gln Val Pro Phe Ser Lys Glu Glu Cys Ala Phe Arg Ser
 420 425 430
 Gln Leu Glu Thr Pro Glu Thr Leu Leu Gly Ser Thr Glu Glu Lys Pro
 435 440 445
 Leu Pro Leu Gly Val Pro Asp Ala Gly Met Lys Pro Ser
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 Pro Thr Gly Leu Tyr Thr His Ser Gly Glu Cys Cys Lys Ala Cys Asn
 35 40 45
 Leu Gly Glu Gly Val Ala Gln Pro Cys Gly Ala Asn Gln Thr Val Cys
 50 55 60
 Glu Pro Cys Leu Asp Ser Val Thr Phe Ser Asp Val Val Ser Ala Thr
 65 70 75 80
 Glu Pro Cys Lys Pro Cys Thr Glu Cys Val Gly Leu Gln Ser Met Ser

85 90 95

Ala Pro Cys Val Glu Ala Asp Asp Ala Val Cys Arg Cys Ala Tyr Gly
100 105 110

Tyr Tyr Gln Asp Glu Thr Thr Gly Arg Cys Glu Ala Cys Arg Val Cys
115 120 125

Glu Ala Gly Ser Gly Leu Val Phe Ser Cys Gln Asp Lys Gln Asn Thr
130 135 140

Val Cys Glu Glu Cys Pro Asp Gly Thr Tyr Ser Asp Glu Ala Asn His
145 150 155 160

Val Asp Pro Cys Leu Pro Cys Thr Val Cys Glu Asp Thr Glu Arg Gln
165 170 175

Leu Arg Glu Cys Thr Arg Trp Ala Asp Ala Glu Cys Glu Glu Ile Pro
180 185 190

Gly Arg Trp Ile Thr Arg Ser Thr Pro Pro Glu Gly Ser Asp Ser Thr
195 200 205

Ala Pro Ser Thr Gln Glu Pro Glu Ala Pro Pro Glu Gln Asp Leu Ile
210 215 220

Ala Ser Thr Val Ala Gly Val Val Thr Thr Val Met Gly Ser Ser Gln
225 230 235 240

Pro Val Val Thr Arg Gly Thr Thr Asp Asn Leu Ile Pro Val Tyr Cys
245 250 255

Ser Ile Leu Ala Ala Val Val Val Gly Leu Val Ala Tyr Ile Ala Phe
260 265 270

Lys Arg Trp Asn Ser Cys Lys Gln Asn Lys Gln Gly Ala Asn Ser Arg
275 280 285

Pro Val Asn Gln Thr Pro Pro Pro Glu Gly Glu Lys Leu His Ser Asp
290 295 300

Ser Gly Ile Ser Val Asp Ser Gln Ser Leu His Asp Gln Gln Pro His
305 310 315 320

Thr Gln Thr Ala Ser Gly Gln Ala Leu Lys Gly Asp Gly Gly Leu Tyr
325 330 335

Ser Ser Leu Pro Pro Ala Lys Arg Glu Glu Val Glu Lys Leu Leu Asn
340 345 350

Gly Ser Ala Gly Asp Thr Trp Arg His Leu Ala Gly Glu Leu Gly Tyr
355 360 365

Gln Pro Glu His Ile Asp Ser Phe Thr His Glu Ala Cys Pro Val Arg
370 375 380

Ala Leu Leu Ala Ser Trp Ala Thr Gln Asp Ser Ala Thr Leu Asp Ala
385 390 395 400

Leu Leu Ala Ala Leu Arg Arg Ile Gln Arg Ala Asp Leu Val Glu Ser
 405 410 415

Leu Cys Ser Glu Ser Thr Ala Thr Ser Pro Val
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Val Pro Pro Tyr Arg Ile Glu Asn Gln Thr Cys Trp Asp Gln Asp Lys
 35 40 45

Glu Tyr Tyr Glu Pro Met His Asp Val Cys Cys Ser Arg Cys Pro Pro
 50 55 60

Gly Glu Phe Val Phe Ala Val Cys Ser Arg Ser Gln Asp Thr Val Cys
 65 70 75 80

Lys Thr Cys Pro His Asn Ser Tyr Asn Glu His Trp Asn His Leu Ser
 85 90 95

Thr Cys Gln Leu Cys Arg Pro Cys Asp Ile Val Leu Gly Phe Glu Glu
 100 105 110

Val Ala Pro Cys Thr Ser Asp Arg Lys Ala Glu Cys Arg Cys Gln Pro
 115 120 125

Gly Met Ser Cys Val Tyr Leu Asp Asn Glu Cys Val His Cys Glu Glu
 130 135 140

Glu Arg Leu Val Leu Cys Gln Pro Gly Thr Glu Ala Glu Val Thr Asp
 145 150 155 160

Glu Ile Met Asp Thr Asp Val Asn Cys Val Pro Cys Lys Pro Gly His
 165 170 175

Phe Gln Asn Thr Ser Ser Pro Arg Ala Arg Cys Gln Pro His Thr Arg
 180 185 190

Cys Glu Ile Gln Gly Leu Val Glu Ala Ala Pro Gly Thr Ser Tyr Ser
 195 200 205

Asp Thr Ile Cys Lys Asn Pro Pro Glu Pro Gly Ala Met Leu Leu Leu
 210 215 220

Ala Ile Leu Leu Ser Leu Val Leu Phe Leu Leu Phe Thr Thr Val Leu
 225 230 235 240

Ala Cys Ala Trp Met Arg His Pro Ser Leu Cys Arg Lys Leu Gly Thr
245 250 255

Leu Leu Lys Arg His Pro Glu Gly Glu Glu Ser Pro Pro Cys Pro Ala
260 265 270

Pro Arg Ala Asp Pro His Phe Pro Asp Leu Ala Glu Pro Leu Leu Pro
275 280 285

Met Ser Gly Asp Leu Ser Pro Ser Pro Ala Gly Pro Pro Thr Ala Pro
290 295 300

Ser Leu Glu Glu Val Val Leu Gln Gln Gln Ser Pro Leu Val Gln Ala
305 310 315 320

Arg Glu Leu Glu Ala Glu Pro Gly Glu His Gly Gln Val Ala His Gly
325 330 335

Ala Asn Gly Ile His Val Thr Gly Gly Ser Val Thr Val Thr Gly Asn
340 345 350

Ile Tyr Ile Tyr Asn Gly Pro Val Leu Gly Gly Thr Arg Gly Pro Gly
355 360 365

Asp Pro Pro Ala Pro Pro Glu Pro Pro Tyr Pro Thr Pro Glu Glu Gly
370 375 380

Ala Pro Gly Pro Ser Glu Leu Ser Thr Pro Tyr Gln Glu Asp Gly Lys
385 390 395 400

Ala Trp His Leu Ala Glu Thr Glu Thr Leu Gly Cys Gln Asp Leu
405 410 415

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20 25 30

Lys Gly Leu Glu Leu Arg Lys Thr Val Thr Thr Val Glu Thr Gln Asn
35 40 45

Leu Glu Gly Leu His His Asp Gly Gln Phe Cys His Lys Pro Cys Pro
50 55 60

Pro Gly Glu Arg Lys Ala Arg Asp Cys Thr Val Asn Gly Asp Glu Pro
65 70 75 80

Asp Cys Val Pro Cys Gln Glu Gly Lys Glu Tyr Thr Asp Lys Ala His
85 90 95

Phe Ser Ser Lys Cys Arg Arg Cys Arg Leu Cys Asp Glu Gly His Gly
 100 105 110
 Leu Glu Val Glu Ile Asn Cys Thr Arg Thr Gln Asn Thr Lys Cys Arg
 115 120 125
 Cys Lys Pro Asn Phe Phe Cys Asn Ser Thr Val Cys Glu His Cys Asp
 130 135 140
 Pro Cys Thr Lys Cys Glu His Gly Ile Ile Lys Glu Cys Thr Leu Thr
 145 150 155 160
 Ser Asn Thr Lys Cys Lys Glu Glu Gly Ser Arg Ser Asn Leu Gly Trp
 165 170 175
 Leu Cys Leu Leu Leu Leu Pro Ile Pro Leu Ile Val Trp Val Lys Arg
 180 185 190
 Lys Glu Val Gln Lys Thr Cys Arg Lys His Arg Lys Glu Asn Gln Gly
 195 200 205
 Ser His Glu Ser Pro Thr Leu Asn Pro Glu Thr Val Ala Ile Asn Leu
 210 215 220
 Ser Asp Val Asp Leu Ser Lys Tyr Ile Thr Thr Ile Ala Gly Val Met
 225 230 235 240
 Thr Leu Ser Gln Val Lys Gly Phe Val Arg Lys Asn Gly Val Asn Glu
 245 250 255
 Ala Lys Ile Asp Glu Ile Lys Asn Asp Asn Val Gln Asp Thr Ala Glu
 260 265 270
 Gln Lys Val Gln Leu Leu Arg Asn Trp His Gln Leu His Gly Lys Lys
 275 280 285
 Glu Ala Tyr Asp Thr Leu Ile Lys Asp Leu Lys Lys Ala Asn Leu Cys
 290 295 300
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 305 310 315 320
 Asp Ser Glu Asn Ser Asn Phe Arg Asn Glu Ile Gln Ser Leu Val
 325 330 335

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 20 25 30

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 35 40 45
 Leu Val Lys Asp Cys Asp Gln His Arg Lys Ala Ala Gln Cys Asp Pro
 50 55 60
 Cys Ile Pro Gly Val Ser Phe Ser Pro Asp His His Thr Arg Pro His
 65 70 75 80
 Cys Glu Ser Cys Arg His Cys Asn Ser Gly Leu Leu Val Arg Asn Cys
 85 90 95
 Thr Ile Thr Ala Asn Ala Glu Cys Ala Cys Arg Asn Gly Trp Gln Cys
 100 105 110
 Arg Asp Lys Glu Cys Thr Glu Cys Asp Pro Leu Pro Asn Pro Ser Leu
 115 120 125
 Thr Ala Arg Ser Ser Gln Ala Leu Ser Pro His Pro Gln Pro Thr His
 130 135 140
 Leu Pro Tyr Val Ser Glu Met Leu Glu Ala Arg Thr Ala Gly His Met
 145 150 155 160
 Gln Thr Leu Ala Asp Phe Arg Gln Leu Pro Ala Arg Thr Leu Ser Thr
 165 170 175
 His Trp Pro Pro Gln Arg Ser Leu Cys Ser Ser Asp Phe Ile Arg Ile
 180 185 190
 Leu Val Ile Phe Ser Gly Met Phe Leu Val Phe Thr Leu Ala Gly Ala
 195 200 205
 Leu Phe Leu His Gln Arg Arg Lys Tyr Arg Ser Asn Lys Gly Glu Ser
 210 215 220
 Pro Val Glu Pro Ala Glu Pro Cys Arg Tyr Ser Cys Pro Arg Glu Glu
 225 230 235 240
 Glu Gly Ser Thr Ile Pro Ile Gln Glu Asp Tyr Arg Lys Pro Glu Pro
 245 250 255
 Ala Cys Ser Pro
 260

<210> 11
 <211> 595
 <212> PRT
 <213> Homo sapiens

<400> 11
 Met Arg Val Leu Leu Ala Ala Leu Gly Leu Leu Phe Leu Gly Ala Leu
 1 5 10 15
 Arg Ala Phe Pro Gln Asp Arg Pro Phe Glu Asp Thr Cys His Gly Asn
 20 25 30

Pro Ser His Tyr Tyr Asp Lys Ala Val Arg Arg Cys Cys Tyr Arg Cys
 35 40 45
 Pro Met Gly Leu Phe Pro Thr Gln Gln Cys Pro Gln Arg Pro Thr Asp
 50 55 60
 Cys Arg Lys Gln Cys Glu Pro Asp Tyr Tyr Leu Asp Glu Ala Asp Arg
 65 70 75 80
 Cys Thr Ala Cys Val Thr Cys Ser Arg Asp Asp Leu Val Glu Lys Thr
 85 90 95
 Pro Cys Ala Trp Asn Ser Ser Arg Val Cys Glu Cys Arg Pro Gly Met
 100 105 110
 Phe Cys Ser Thr Ser Ala Val Asn Ser Cys Ala Arg Cys Phe Phe His
 115 120 125
 Ser Val Cys Pro Ala Gly Met Ile Val Lys Phe Pro Gly Thr Ala Gln
 130 135 140
 Lys Asn Thr Val Cys Glu Pro Ala Ser Pro Gly Val Ser Pro Ala Cys
 145 150 155 160
 Ala Ser Pro Glu Asn Cys Lys Glu Pro Ser Ser Gly Thr Ile Pro Gln
 165 170 175
 Ala Lys Pro Thr Pro Val Ser Pro Ala Thr Ser Ser Ala Ser Thr Met
 180 185 190
 Pro Val Arg Gly Gly Thr Arg Leu Ala Gln Glu Ala Ala Ser Lys Leu
 195 200 205
 Thr Arg Ala Pro Asp Ser Pro Ser Ser Val Gly Arg Pro Ser Ser Asp
 210 215 220
 Pro Gly Leu Ser Pro Thr Gln Pro Cys Pro Glu Gly Ser Gly Asp Cys
 225 230 235 240
 Arg Lys Gln Cys Glu Pro Asp Tyr Tyr Leu Asp Glu Ala Gly Arg Cys
 245 250 255
 Thr Ala Cys Val Ser Cys Ser Arg Asp Asp Leu Val Glu Lys Thr Pro
 260 265 270
 Cys Ala Trp Asn Ser Ser Arg Thr Cys Glu Cys Arg Pro Gly Met Ile
 275 280 285
 Cys Ala Thr Ser Ala Thr Asn Ser Cys Ala Arg Cys Val Pro Tyr Pro
 290 295 300
 Ile Cys Ala Ala Glu Thr Val Thr Lys Pro Gln Asp Met Ala Glu Lys
 305 310 315 320
 Asp Thr Thr Phe Glu Ala Pro Pro Leu Gly Thr Gln Pro Asp Cys Asn
 325 330 335

Pro Thr Pro Glu Asn Gly Glu Ala Pro Ala Ser Thr Ser Pro Thr Gln
 340 345 350
 Ser Leu Leu Val Asp Ser Gln Ala Ser Lys Thr Leu Pro Ile Pro Thr
 355 360 365
 Ser Ala Pro Val Ala Leu Ser Ser Thr Gly Lys Pro Val Leu Asp Ala
 370 375 380
 Gly Pro Val Leu Phe Trp Val Ile Leu Val Leu Val Val Val Gly
 385 390 395 400
 Ser Ser Ala Phe Leu Leu Cys His Arg Arg Ala Cys Arg Lys Arg Ile
 405 410 415
 Arg Gln Lys Leu His Leu Cys Tyr Pro Val Gln Thr Ser Gln Pro Lys
 420 425 430
 Leu Glu Leu Val Asp Ser Arg Pro Arg Arg Ser Ser Thr Gln Leu Arg
 435 440 445
 Ser Gly Ala Ser Val Thr Glu Pro Val Ala Glu Glu Arg Gly Leu Met
 450 455 460
 Ser Gln Pro Leu Met Glu Thr Cys His Ser Val Gly Ala Ala Tyr Leu
 465 470 475 480
 Glu Ser Leu Pro Leu Gln Asp Ala Ser Pro Ala Gly Gly Pro Ser Ser
 485 490 495
 Pro Arg Asp Leu Pro Glu Pro Arg Val Ser Thr Glu His Thr Asn Asn
 500 505 510
 Lys Ile Glu Lys Ile Tyr Ile Met Lys Ala Asp Thr Val Ile Val Gly
 515 520 525
 Thr Val Lys Ala Glu Leu Pro Glu Gly Arg Gly Leu Ala Gly Pro Ala
 530 535 540
 Glu Pro Glu Leu Glu Glu Glu Leu Glu Ala Asp His Thr Pro His Tyr
 545 550 555 560
 Pro Glu Gln Glu Thr Glu Pro Pro Leu Gly Ser Cys Ser Asp Val Met
 565 570 575
 Leu Ser Val Glu Glu Glu Gly Lys Glu Asp Pro Leu Pro Thr Ala Ala
 580 585 590
 Ser Gly Lys
 595

<210> 12
 <211> 277
 <212> PRT
 <213> Homo sapiens

<400> 12

Met Val Arg Leu Pro Leu Gln Cys Val Leu Trp Gly Cys Leu Leu Thr
 1 5 10 15
 Ala Val His Pro Glu Pro Pro Thr Ala Cys Arg Glu Lys Gln Tyr Leu
 20 25 30
 Ile Asn Ser Gln Cys Cys Ser Leu Cys Gln Pro Gly Gln Lys Leu Val
 35 40 45
 Ser Asp Cys Thr Glu Phe Thr Glu Thr Glu Cys Leu Pro Cys Gly Glu
 50 55 60
 Ser Glu Phe Leu Asp Thr Trp Asn Arg Glu Thr His Cys His Gln His
 65 70 75 80
 Lys Tyr Cys Asp Pro Asn Leu Gly Leu Arg Val Gln Gln Lys Gly Thr
 85 90 95
 Ser Glu Thr Asp Thr Ile Cys Thr Cys Glu Glu Gly Trp His Cys Thr
 100 105 110
 Ser Glu Ala Cys Glu Ser Cys Val Leu His Arg Ser Cys Ser Pro Gly
 115 120 125
 Phe Gly Val Lys Gln Ile Ala Thr Gly Val Ser Asp Thr Ile Cys Glu
 130 135 140
 Pro Cys Pro Val Gly Phe Phe Ser Asn Val Ser Ser Ala Phe Glu Lys
 145 150 155 160
 Cys His Pro Trp Thr Ser Cys Glu Thr Lys Asp Leu Val Val Gln Gln
 165 170 175
 Ala Gly Thr Asn Lys Thr Asp Val Val Cys Gly Pro Gln Asp Arg Leu
 180 185 190
 Arg Ala Leu Val Val Ile Pro Ile Ile Phe Gly Ile Leu Phe Ala Ile
 195 200 205
 Leu Leu Val Leu Val Phe Ile Lys Lys Val Ala Lys Lys Pro Thr Asn
 210 215 220
 Lys Ala Pro His Pro Lys Gln Glu Pro Gln Glu Ile Asn Phe Pro Asp
 225 230 235 240
 Asp Leu Pro Gly Ser Asn Thr Ala Ala Pro Val Gln Glu Thr Leu His
 245 250 255
 Gly Cys Gln Pro Val Thr Gln Glu Asp Gly Lys Glu Ser Arg Ile Ser
 260 265 270
 Val Gln Glu Arg Gln
 275

<210> 13
 <211> 255
 <212> PRT

<213> Homo sapiens

<400> 13

Met Gly Asn Ser Cys Tyr Asn Ile Val Ala Thr Leu Leu Leu Val Leu
 1 5 10 15

Asn Phe Glu Arg Thr Arg Ser Leu Gln Asp Pro Cys Ser Asn Cys Pro
 20 25 30

Ala Gly Thr Phe Cys Asp Asn Asn Arg Asn Gln Ile Cys Ser Pro Cys
 35 40 45

Pro Pro Asn Ser Phe Ser Ser Ala Gly Gly Gln Arg Thr Cys Asp Ile
 50 55 60

Cys Arg Gln Cys Lys Gly Val Phe Arg Thr Arg Lys Glu Cys Ser Ser
 65 70 75 80

Thr Ser Asn Ala Glu Cys Asp Cys Thr Pro Gly Phe His Cys Leu Gly
 85 90 95

Ala Gly Cys Ser Met Cys Glu Gln Asp Cys Lys Gln Gly Gln Glu Leu
 100 105 110

Thr Lys Lys Gly Cys Lys Asp Cys Cys Phe Gly Thr Phe Asn Asp Gln
 115 120 125

Lys Arg Gly Ile Cys Arg Pro Trp Thr Asn Cys Ser Leu Asp Gly Lys
 130 135 140

Ser Val Leu Val Asn Gly Thr Lys Glu Arg Asp Val Val Cys Gly Pro
 145 150 155 160

Ser Pro Ala Asp Leu Ser Pro Gly Ala Ser Ser Val Thr Pro Pro Ala
 165 170 175

Pro Ala Arg Glu Pro Gly His Ser Pro Gln Ile Ile Ser Phe Phe Leu
 180 185 190

Ala Leu Thr Ser Thr Ala Leu Leu Phe Leu Leu Phe Phe Leu Thr Leu
 195 200 205

Arg Phe Ser Val Val Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe
 210 215 220

Lys Gln Pro Phe Met Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly
 225 230 235 240

Cys Ser Cys Arg Phe Pro Glu Glu Glu Glu Gly Gly Cys Glu Leu
 245 250 255

<210> 14

<211> 277

<212> PRT

<213> Homo sapiens

<400> 14

Met Cys Val Gly Ala Arg Arg Leu Gly Arg Gly Pro Cys Ala Ala Leu
 1 5 10 15
 Leu Leu Leu Gly Leu Gly Leu Ser Thr Val Thr Gly Leu His Cys Val
 20 25 30
 Gly Asp Thr Tyr Pro Ser Asn Asp Arg Cys Cys His Glu Cys Arg Pro
 35 40 45
 Gly Asn Gly Met Val Ser Arg Cys Ser Arg Ser Gln Asn Thr Val Cys
 50 55 60
 Arg Pro Cys Gly Pro Gly Phe Tyr Asn Asp Val Val Ser Ser Lys Pro
 65 70 75 80
 Cys Lys Pro Cys Thr Trp Cys Asn Leu Arg Ser Gly Ser Glu Arg Lys
 85 90 95
 Gln Leu Cys Thr Ala Thr Gln Asp Thr Val Cys Arg Cys Arg Ala Gly
 100 105 110
 Thr Gln Pro Leu Asp Ser Tyr Lys Pro Gly Val Asp Cys Ala Pro Cys
 115 120 125
 Pro Pro Gly His Phe Ser Pro Gly Asp Asn Gln Ala Cys Lys Pro Trp
 130 135 140
 Thr Asn Cys Thr Leu Ala Gly Lys His Thr Leu Gln Pro Ala Ser Asn
 145 150 155 160
 Ser Ser Asp Ala Ile Cys Glu Asp Arg Asp Pro Pro Ala Thr Gln Pro
 165 170 175
 Gln Glu Thr Gln Gly Pro Pro Ala Arg Pro Ile Thr Val Gln Pro Thr
 180 185 190
 Glu Ala Trp Pro Arg Thr Ser Gln Gly Pro Ser Thr Arg Pro Val Glu
 195 200 205
 Val Pro Gly Gly Arg Ala Val Ala Ala Ile Leu Gly Leu Gly Leu Val
 210 215 220
 Leu Gly Leu Leu Gly Pro Leu Ala Ile Leu Leu Ala Leu Tyr Leu Leu
 225 230 235 240
 Arg Arg Asp Gln Arg Leu Pro Pro Asp Ala His Lys Pro Pro Gly Gly
 245 250 255
 Gly Ser Phe Arg Thr Pro Ile Gln Glu Glu Gln Ala Asp Ala His Ser
 260 265 270
 Thr Leu Ala Lys Ile
 275

<210> 15
 <211> 349
 <212> PRT

<213> Homo sapiens

<400> 15

Met Lys Ser Val Leu Tyr Leu Tyr Ile Leu Phe Leu Ser Cys Ile Ile
 1 5 10 15

Ile Asn Gly Arg Asp Ala Ala Pro Tyr Thr Pro Pro Asn Gly Lys Cys
 20 25 30

Lys Asp Thr Glu Tyr Lys Arg His Asn Leu Cys Cys Leu Ser Cys Pro
 35 40 45

Pro Gly Thr Tyr Ala Ser Arg Leu Cys Asp Ser Lys Thr Asn Thr Gln
 50 55 60

Cys Thr Pro Cys Gly Ser Gly Thr Phe Thr Ser Arg Asn Asn His Leu
 65 70 75 80

Pro Ala Cys Leu Ser Cys Asn Gly Arg Cys Asn Ser Asn Gln Val Glu
 85 90 95

Thr Arg Ser Cys Asn Thr Thr His Asn Arg Ile Cys Glu Cys Ser Pro
 100 105 110

Gly Tyr Tyr Cys Leu Leu Lys Gly Ser Ser Gly Cys Lys Ala Cys Val
 115 120 125

Ser Gln Thr Lys Cys Gly Ile Gly Tyr Gly Val Ser Gly His Thr Ser
 130 135 140

Val Gly Asp Val Ile Cys Ser Pro Cys Gly Phe Gly Thr Tyr Ser His
 145 150 155 160

Thr Val Ser Ser Ala Asp Lys Cys Glu Pro Val Pro Asn Asn Thr Phe
 165 170 175

Asn Tyr Ile Asp Val Glu Ile Thr Leu Tyr Pro Val Asn Asp Thr Ser
 180 185 190

Cys Thr Arg Thr Thr Thr Thr Gly Leu Ser Glu Ser Ile Leu Thr Ser
 195 200 205

Glu Leu Thr Ile Thr Met Asn His Thr Asp Cys Asn Pro Val Phe Arg
 210 215 220

Glu Glu Tyr Phe Ser Val Leu Asn Lys Val Ala Thr Ser Gly Phe Phe
 225 230 235 240

Thr Gly Glu Asn Arg Tyr Gln Asn Ile Ser Lys Val Cys Thr Leu Asn
 245 250 255

Phe Glu Ile Lys Cys Asn Asn Lys Gly Ser Ser Phe Lys Gln Leu Thr
 260 265 270

Lys Ala Lys Asn Asp Asp Gly Met Met Ser His Ser Glu Thr Val Thr
 275 280 285

Leu Ala Gly Asp Cys Leu Ser Ser Val Asp Ile Tyr Ile Leu Tyr Ser

290 295 300

Asn Thr Asn Ala Gln Asp Tyr Glu Thr Asp Thr Ile Ser Tyr Arg Val
305 310 315 320

Gly Asn Val Leu Asp Asp Asp Ser His Met Pro Gly Ser Cys Asn Ile
 325 330 335

His Lys Pro Ile Thr Asn Ser Lys Pro Thr Arg Phe Leu
 340 345

<210> 16
<211> 355
<212> PRT
<213> Homo sapiens

<400> 16

Met Lys Ser Tyr Ile Leu Leu Leu Leu Leu Ser Cys Ile Ile Ile Ile
1 5 10 15

Asn Ser Asp Ile Thr Pro His Glu Pro Ser Asn Gly Lys Cys Lys Asp
 20 25 30

Asn Glu Tyr Lys Arg His His Leu Cys Cys Leu Ser Cys Pro Pro Gly
 35 40 45

Thr Tyr Ala Ser Arg Leu Cys Asp Ser Lys Thr Asn Thr Asn Thr Gln
 50 55 60

Cys Thr Pro Cys Ala Ser Asp Thr Phe Thr Ser Arg Asn Asn His Leu
65 70 75 80

Pro Ala Cys Leu Ser Cys Asn Gly Arg Cys Asp Ser Asn Gln Val Glu
 85 90 95

Thr Arg Ser Cys Asn Thr Thr His Asn Arg Ile Cys Asp Cys Ala Pro
 100 105 110

Gly Tyr Tyr Cys Phe Leu Lys Gly Ser Ser Gly Cys Lys Ala Cys Val
 115 120 125

Ser Gln Thr Lys Cys Gly Ile Gly Tyr Gly Val Ser Gly His Thr Pro
130 135 140

Thr Gly Asp Val Val Cys Ser Pro Cys Gly Leu Gly Thr Tyr Ser His
145 150 155 160

Thr Val Ser Ser Val Asp Lys Cys Glu Pro Val Pro Ser Asn Thr Phe
 165 170 175

Asn Tyr Ile Asp Val Glu Ile Asn Leu Tyr Pro Val Asn Asp Thr Ser
 180 185 190

Cys Thr Arg Thr Thr Thr Thr Gly Leu Ser Glu Ser Ile Ser Thr Ser
 195 200 205

Glu Leu Thr Ile Thr Met Asn His Lys Asp Cys Asp Pro Val Phe Arg

210	215	220
Asn Gly Tyr Phe Ser Val Leu Asn Glu Val Ala Thr Ser Gly Phe Phe 225 230 235 240		
Thr Gly Gln Asn Arg Tyr Gln Asn Ile Ser Lys Val Cys Thr Leu Asn 245 250 255		
Phe Glu Ile Lys Cys Asn Asn Lys Asp Ser Tyr Ser Ser Ser Lys Gln 260 265 270		
Leu Thr Lys Thr Lys Asn Asp Asp Asp Ser Ile Met Pro His Ser Glu 275 280 285		
Ser Val Thr Leu Val Gly Asp Cys Leu Ser Ser Val Asp Ile Tyr Ile 290 295 300		
Leu Tyr Ser Asn Thr Asn Thr Gln Asp Tyr Glu Thr Asp Thr Ile Ser 305 310 315 320		
Tyr His Val Gly Asn Val Leu Asp Val Asp Ser His Met Pro Gly Arg 325 330 335		
Cys Asp Thr His Lys Leu Ile Thr Asn Ser Asn Ser Gln Tyr Pro Thr 340 345 350		
His Phe Leu 355		

<210> 17
 <211> 499
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 <213> Homo sapiens

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 tgagggcgct ggaggggcca ggcctgtcgc tgctgtgcct ggtgttggcg ctgcctgccc 120
 tgctgccggt gccggctgta cgcggagtgg cagaaacacn nacntacccc tggcgggacg 180
 nagagacagg ggagcggctg gtgtntnccc antgcccccc aggcaccttt ntgcagcggc 240
 cgtgccgncg agacagcccc acgacgtgtg gcccgntncc accgcgccac tacacgcatt 300
 ctggaactac ctggagcgct gncgttactn caacgtcctc tgcggggagc gtnaggagga 360
 ggcacggggt tncacgnca accacaaccg nggnttaccg tngccgnacc ggtttcttcg 420
 nggcaagtgt gtttttnttt tggagnaagg attcgtgttn caattnattg acgnagtgat 480
 tnnncncggg aaactnaaa 499

<210> 18
 <211> 191
 <212> DNA
 <213> Homo sapiens

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<220>
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 <223> n equals a, t, g, or c

<220>
 <221> misc_feature
 <222> (188)
 <223> n equals a, t, g, or c

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 ctgtgcacca gctgcactgg ctccccctc agcaccaggg taccangagc tgaggagtgt 120
 gagcntgccg tcatcgactt tttggcttcc caggacatct ccatcaagag gctgcagcgg 180
 ctgctcangc c 191

<210> 19
 <211> 26
 <212> DNA

<213> Homo sapiens

<400> 19

cgcccatggc agaaacaccc acctac

26

<210> 20

<211> 26

<212> DNA

<213> Homo sapiens

<400> 20

cgcaagcttc tctttcagtg caagtg

26

<210> 21

<211> 28

<212> DNA

<213> Homo sapiens

<400> 21

cgcaagcttc tcctcagctc ctgcagtg

28

<210> 22

<211> 36

<212> DNA

<213> Homo sapiens

<400> 22

cgcggtaccg ccatcatgag ggcgtggagg ggccag

36

<210> 23

<211> 26

<212> DNA

<213> Homo sapiens

<400> 23

cgcggtaccc tctttcagtg caagtg

26

<210> 24

<211> 28

<212> DNA

<213> Homo sapiens

<400> 24

cgcggtaccc tcctcagctc ctgcagtg

28